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(54) **METHODS FOR PRODUCTION OF PROTEINS**

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(52) **U.S. Cl.**

CPC ..... **C07K 1/26** (2013.01); **C07K 1/1077** (2013.01); **C07K 1/13** (2013.01); **C07K 14/001** (2013.01); **C12N 9/0036** (2013.01); **C12P 21/02** (2013.01); **C07K 2319/00** (2013.01); **C07K 2319/01** (2013.01); **Y02P 20/52** (2015.11)

(58) **Field of Classification Search**

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See application file for complete search history.

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(57) **ABSTRACT**

The current invention provides methods for producing a polypeptide as inclusion bodies in bacterial host cells. The present methods are carried out by forming a gene construct comprising the genetic sequence encoding a polypeptide operatively linked to that of an inclusion partner protein, such that host cells comprising the gene construct produce the polypeptide as intracellular inclusion bodies thereby facilitating rapid isolation and purification of recombinant proteins. The invention further provides methods for producing protein molecular weight ladders for use in protein gel electrophoresis, as well as proteins and protein molecular weight ladders produced by these methods.

**17 Claims, 9 Drawing Sheets**